

Division of Biological and Biomedical Systems

University of Missouri - Kansas City

Johnson County Community College Transfer Program to the University of Missouri - Kansas City	School of Science & Engineering
School of Science and Engineering	816-235-2399
Division of Biological and Biomedical Systems	sse@umkc.edu
Academic Year 2025-2026	https://sse.umkc.edu

Program Description

The Associate of Science, AS (<https://catalog.jccc.edu/degree/requirements/associate-science/>) at JCCC is a general transfer degree and partners well with the first two years of most bachelor degree programs. Students pursuing the AS may select courses that satisfy both the AS degree requirements and lower division requirements for a bachelor's degree at four-year institutions. The elective hours within the AS allow students to complete additional general education and lower division courses required for specific majors. The AS degree requires completion of 60 credit hours. Meeting with a JCCC counselor (<https://www.jccc.edu/student-resources/counseling/academic-counseling/>) is strongly recommended for selection of appropriate courses.

The Division of Biological and Biomedical Systems at UMKC offers the following degrees:

- Bachelor of Arts
 - Bachelor of Arts
- Bachelor of Science
 - Bachelor of Science
 - Emphasis Areas
 - Bioinformatics
 - Biomedical Sciences
 - Biotechnology
 - Clinical Laboratory Science
- Biomedical Engineering

All UMKC undergraduate degrees require at least 120 credit hours, some programs may require more hours. Students must complete at least 30 credit hours at UMKC and at least 12 upper-division credit hours in their major department/program at UMKC to be eligible to receive an undergraduate degree from UMKC.

General UMKC Transfer Admission Requirements

- 2.0 or higher cumulative GPA
- Credit/no credit may only be applied to elective coursework and will not apply towards UMKC's general education core or major requirements.
- Equivalent courses can be repeated but all grades will be averaged for GPA calculation purposes and students will only receive credit for one attempt.
- Visit the full transfer admission requirements (<https://www.umkc.edu/transfer/apply.html>) for more information.

School of Science and Engineering Transfer Admission Requirements

- 2.0 or higher GPA
- Visit the School of Science & Engineering (<https://sse.umkc.edu/admissions/transfer-students.html>) admission requirements by major.

General Education Requirements for Transfer students:

All UMKC undergraduate students complete general education requirements. Completing an Associate of Arts (A.A.) degree or the Associate of Science (A.S.) in General Sciences at JCCC will satisfy all general education requirements at UMKC, including the Constitution requirement. The A.S. is a better option for most students wanting to transfer into SSE. JCCC students transferring to UMKC without completing the A.A. or A.S. will have the option to elect to complete either the UMKC Essentials or the Missouri Transfer (MOTR) Core 42 curriculum to meet general education requirements.

^To learn more about these two options and UMKC general education requirements, including how transfer coursework applies to specific general education requirements (<https://nam12.safelinks.protection.outlook.com/?url=http%3A%2F%2Fnextcatalog.jccc.edu%2Ftransfer-guides%2Fumkc%2Fumkc-general-education%2F&data=05%7C02%7Cskhalif2%40jccc.edu%7C3bbbe8fc84564328cf7008de1320415e%7C15244239dcf245e7aefd127b69fc5438%7C1%7C0%7C638969226426393815%7CUnknown%7CTWFPbGZsb3d8eyJFbXB0eU1hcGkiOnRydWUsIiYiOiIwLjAuMDAwMCIsIiAiOiJXaW4zMlIsIkFOljoiTWFpbiIsIldUljoyfQ%3D%3D%7C0%7C%7C&sdata=%2FvPga7lbeZ0jrCCeMsWei47YJU4Mi5k%2B50ooxjEZup4%3D&reserved=0>).

BIOLOGY REQUIRED CLASSES –

All Biology majors can complete the following courses at JCCC:

Course Code	Course Title	Course Hours	Transfer Code	Transfer Title	Transfer Hours
BIOL 135	Principles of Cell and Molecular Biology General Biology I with Lab ** (or MOTRBIOL 100LB)	4	BIOLOGY 108 108L (or MOTRBIOL 100LB)		
BIOL 150	Biology of Organisms* General Biology II with Lab** (or MOTRBIOL 100LZ)	5	BIOLOGY 109 109L (or MOTRBIOL 100LZ)		
BIOL 205	General Genetics*	4	BIOLOGY 206 Genetics**		
CHEM 124 & CHEM 125	General Chemistry I Lecture* and General Chemistry I Lab*	4	CHEM 211 AND CHEM 211L General Chemistry I with Lab**		
CHEM 131 & CHEM 132	General Chemistry II Lecture* and General Chemistry II Lab*	4	CHEM 212R AND CHEM 212LR General Chemistry II with Lab**		
MATH 173	Precalculus*	5	MATH 120	Precalculus	5

Biology (BA)

Course Code Code	Course Title Title	Course Hours Hours	Transfer Code Code	Transfer Title Title	Transfer Hours Hours
Select one of the following:					
MATH 241	Calculus I*	5	MATH 210	Calculus I	4
MATH 161	Elementary Statistics*	3	STAT 235 Elementary Statistics**		
Select one of the following:					
PHYS 130	College Physics I*	5	PHYSICS 210	General Physic I	4
PHYS 220	Engineering Physics I*	5	PHYSICS 240	Physics Scientist/ Engineers I	5

Biology (BS) Student must complete additional biology majors coursework for a total of 42 credit hours of biology courses with grades of "C-" or better, 26 of these hours must be 300-400 level. A minimum of 21 credit hours of biology courses must be taken from BIOLOGY or LIFE-SCI coursework at UMKC. The UM Biology GPA must be at least 2.0.

Course Code Code	Course Title Title	Course Hours Hours	Transfer Code Code	Transfer Title Title	Transfer Hours Hours
CHEM 220	Organic Chemistry I*	5	CHEM 321	Organic Chemistry I	3
CHEM 221	Organic Chemistry II*	5	CHEM 322R	Organic Chemistry II	3
MATH 241	Calculus I*	5	MATH 210	Calculus I	4
Select one of the following:					
MATH 242	Calculus II*	5	MATH 220	Analytic Geometry Calc I	4
MATH 161	Elementary Statistics*	3	STAT 235 Elementary Statistics**		
Select one of the following:					
PHYS 130	College Physics I*	5	PHYSICS 210	General Physic I	4
PHYS 220	Engineering Physics I*	5	PHYSICS 240	Physics Scientist/ Engineers I	5
Select one of the following:					
PHYS 131	College Physics II*	5	PHYSICS 220	General Physics II	4
PHYS 221	Engineering Physics II*	5	PHYSICS 250	Physics Scientist/ Engineers II	5

Biology – Bioinformatics Emphasis (BS)

Course Code Code	Course Title Title	Course Hours Hours	Transfer Code Code	Transfer Title Title	Transfer Hours Hours
Select one of the following:					
CS 200	Concepts of Programming Algorithms Using C++*	4	COMP-SCI 101 AND COMP-SCI 101L Problem Solving Programming I** with Lab**		
CS 202	Concepts of Programming Algorithms using Python*	4	COMP-SCI 101 AND COMP-SCI 101L Problem Solving Programming I** with Lab**		
CS 205	Concepts of Programming Algorithms using Java*	4	COMP-SCI 101 AND COMP-SCI 101L Problem Solving Programming I** with Lab**		
CS 210	Discrete Structures I*	3	COMP-SCI 191 Discrete Structures I**		

CS 235	Object-Oriented Programming Using C++*	4	COMP-SCI 201R AND COMP-SCI 201L Problem Solving Programming II** with Lab**		
CS 250	Basic Data Structures using C++*	4	COMP-SCI 303	Data Structures	3
MATH 241	Calculus I*	5	MATH 210	Calculus I	4
MATH 242	Calculus II*	5	MATH 220	Analytic Geometry Calc I	4

Biology – Biomedical Science Emphasis (BS) Requires a supplemental application. Student must complete additional biology majors coursework for a total of 42 credit hours of biology courses with grades of “C-” or better. 26 of these hours must be 300-400 level. A minimum of 21 credit hours of biology courses must be taken from BIOLOGY or LIFE-SCI coursework at UMKC. The UM Biology GPA must be at least 2.0.

Course Code	Course Title	Course Hours	Transfer Code	Transfer Title	Transfer Hours
Code	Title		Hours		
BIOL 140	Human Anatomy	4	BIOLOGY 218 218L Intro. Anatomy** with Lab**		
CHEM 220	Organic Chemistry I*	5	CHEM 321	Organic Chemistry I	3
CHEM 221	Organic Chemistry II*	5	CHEM 322R	Organic Chemistry II	3
HC 130	Medical Terminology for Healthcare Professions	3	HLSC/NURSE 125 Medical Terminology		
MATH 241	Calculus I*	5	MATH 210	Calculus I	4

Select one of the following:

MATH 242	Calculus II*	5	MATH 220	Analytic Geometry Calc I	4
MATH 161	Elementary Statistics*	3	STAT 235 Elementary Statistics**		

Select one of the following:

PHYS 130	College Physics I*	5	PHYSICS 210	General Physic I	4
PHYS 220	Engineering Physics I*	5	PHYSICS 240	Physics Scientist/Engineers I	5

Select one of the following:

PHYS 131	College Physics II*	5	PHYSICS 220	General Physics II	4
PHYS 221	Engineering Physics II*	5	PHYSICS 250	Physics Scientist/Engineers II	5

Biology – Biotechnology Emphasis (BS)

Course Code	Course Title	Course Hours	Transfer Code	Transfer Title	Transfer Hours
Code	Title		Hours		
ACCT 121	Accounting I	3	ACCTNG 210	Intro Financial Accounting	3
ACCT 122	Accounting II*	3	ACCTNG 210 Introduction to Financial Accounting		

Select one of the following:

CS 200	Concepts of Programming Algorithms Using C++*	4	COMP-SCI 101 AND COMP-SCI 101L Problem Solving Programming I** with Lab**		
CS 202	Concepts of Programming Algorithms using Python*	4	COMP-SCI 101 AND COMP-SCI 101L Problem Solving Programming I** with Lab**		

CS 205	Concepts of Programming Algorithms using Java*	4	COMP-SCI 101 AND COMP-SCI 101L Problem Solving Programming I** with Lab**		
MATH 241	Calculus I*	5	MATH 210	Calculus I	4
MATH 242	Calculus II*	5	MATH 220	Analytic Geometry Calc I	4

Biology – Clinical Laboratory Science Emphasis (BS)

Course Code	Course Title	Course Hours	Transfer Code	Transfer Title	Transfer Hours
Code	Title	Hours	Hours		

Select one of the following:

MATH 241	Calculus I*	5	MATH 210	Calculus I	4
MATH 161	Elementary Statistics*	3	STAT 235 Elementary Statistics**		
PHYS 130	College Physics I*	5	PHYSICS 210	General Physic I	4
PHYS 131	College Physics II*	5	PHYSICS 220	General Physics II	4

Biomedical Engineering (BS)

A minimum of “C-” or better in all math, science, engineering, and computer science coursework is required.

Course Code	Course Title	Course Hours	Transfer Code	Transfer Title	Transfer Hours
Code	Title	Hours	Hours		

BIOL 135	Principles of Cell and Molecular Biology General Biology I with Lab** (or MOTRBIOL 110LB))	4	BIOLOGY 108 108L (or MOTRBIOL 100LB		
BIOL 140	Human Anatomy	4	BIOLOGY 218 Introductory Anatomy		
BIOL 205	General Genetics*	4	BIOLOGY 206 Genetics**		
CHEM 124 & CHEM 125	General Chemistry I Lecture* and General Chemistry I Lab*	4	CHEM 211 & CHEM 211L	General Chemistry I and Experimental Gen Chemistry I	1
CHEM 131 & CHEM 132	General Chemistry II Lecture* and General Chemistry II Lab*	4	CHEM 212R & CHEM 212LR	General Chemistry II and Experimental Gen Chemistry II	1
CS 200	Concepts of Programming Algorithms Using C++*	4	EC-ENGR 216 Engineering Computation		
ENGR 251	Statics*	3	CIV-ENGR 275	Engineering Statics	3
ENGR 254	Dynamics*	3	MEC-ENGR 285 Engineering Dynamics		
ENGR 284	Thermodynamics*	4	MEC-ENGR 299 Engineering Thermodynamics		
MATH 241	Calculus I*	5	MATH 210	Calculus I	4
MATH 242	Calculus II*	5	MATH 220	Analytic Geometry Calc I	4
MATH 243	Calculus III*	5	MATH 250 Calculus III		
MATH 254	Differential Equations*	4	MATH 345	Ordinary Differential Equation	4
PHYS 220	Engineering Physics I*	5	PHYSICS 240	Physics Scientist/Engineers I	5
PHYS 221	Engineering Physics II*	5	PHYSICS 250	Physics Scientist/Engineers II	5

* JCCC course has a prerequisite or corequisite.



- ** Denotes courses that must be completed with a grade of "C-" or above.
- *** Meets the requirement for the engineering degree, but will not count towards a major or minor in Math.
- ^ While this course can be transferred from JCCC to UMKC, students who take it at UMKC will be eligible for upperlevel credit.

Last Approved Thu Nov 6 18:42:42 2025